



# **Montana Fish, Wildlife & Parks**

**Region One Fisheries  
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## **ENVIRONMENTAL ASSESSMENT AND DECISION NOTICE FOR THE LOON LAKE REHABILITATION PROJECT**

September 14, 2007

### **Project Proposal and Justification:**

Loon Lake is located approximately 15 miles northwest of Libby, Montana, and is accessed from the Pipe Creek Road. The lake has a surface area of 33 acres and a maximum depth of 25 feet. Loon Lake is fed by ground water and three seasonally intermittent streams from the northeast. The unnamed outlet stream that leaves the lake is the only outlet stream for the lake and flows from the lake through public land (USFS) for about 3 miles to Pipe Creek. Westslope cutthroat trout were likely the dominant salmonid species historically present in Loon Lake. However, black bullheads were illegally planted in Loon Lake sometime after the late 1960s or early 1970s. Montana Fish, Wildlife & Parks (FWP) also stocked rainbow trout in the 1930s, 1980s, and 1990s, arctic grayling in the 1930s and 1940s, and eastern brook trout from 1948-1961 on seven occasions. Currently, the only two species remaining in the lake are black bullheads and eastern brook trout. Brook trout and black bullheads occur at relatively low levels in Loon Lake, but at sufficiently high abundance to be self-sustaining. However, brook trout are relatively more abundant in the outlet stream than the lake. Angler use of the lake has also declined within recent years.

The objectives of this project are to increase the angling quality of Loon Lake and to reduce the number of brook trout entering Pipe Creek from Loon Lake and the outlet stream in order to aid the long-term persistence of bull trout in Pipe Creek by reducing the number of brook trout and black bullhead in Loon Lake and the outlet stream. FWP acknowledges that complete removal of both species from these habitats may be difficult with a single application of piscicide.

FWP will use a combination of piscicides to remove nonnative fish species from Loon Lake and the outlet stream. We will use CFT Legumine, a commercial formulation that contains 5% rotenone as the active ingredient, as the primary piscicide for this project to remove eastern brook trout and black bullheads from Loon Lake and the outlet stream downstream to the existing barrier on the outlet stream located approximately 1.0 mile upstream from the confluence with Pipe Creek. FWP will also use a dry rotenone gel formulation in conjunction with CFT Legumine at strategic upwelling locations within Loon Lake in order to prevent fish from seeking refuge in the springs following the application of CFT Legumine to the lake.

### **Location of Project:**

This project would be conducted on Loon Lake and the associated unnamed outlet tributary to Loon Lake, located approximately 15 miles northwest of the city of Libby, Montana. Specifically, the project is located within Township 33 North, Range 32 West, Sections 24 and 25, Lincoln County, Montana. The US Forest Service owns and manages all the property where the proposed activities would occur.

### **Environmental and Social Impacts of Project:**

This project is designed to kill fish presently found in Loon Lake and the outlet stream. The eastern brook trout is the only targeted game species for this project that would be eliminated from Loon Lake and the outlet tributary. Black bullheads would also be eliminated, but are not classified as a game species. The impact from the removal of these fish species is expected to be short term and minor because the lake would be restocked with cutthroat trout, which would also pioneer into the outlet tributary and possibly Pipe Creek. Rotenone naturally degrades through exposure to air and sunlight. To help ensure that aquatic life and water quality in Pipe Creek will not be affected, CFT Legumine and the powdered rotenone formulation used in this project will be detoxified with potassium permanganate near an existing fish barrier on the outlet tributary approximately one mile upstream of the confluence with Pipe Creek.

FWP expects the impacts to nontarget invertebrates within the project area to be minimal based on the resilient nature of most invertebrates to the chemicals used for this project. FWP also expects minimal impacts to amphibians and reptiles as a result of this project and further minimized by implementing the project during the fall, when larval life stages are less likely to be present in the area. FWP expects this project to have little or no adverse effect on mammals or birds occupying the area, based on research that has shown that rotenone is not toxic to mammals and birds at the fish-killing concentrations that will be used for this project. This project is also not likely to have secondary effects, such as displacement, on any local populations of birds or mammals. Project personnel activity during project completion may be slightly higher than existing recreational use during the remainder of the summer and fall, but should have no effect on sensitive animal displacement. The fish community in Loon Lake is unlikely to be a substantial food source for any of these sensitive animal species. Therefore removing these fish from Loon Lake and the outlet tributary will have little or no impact on any of these species.

The risk that rotenone will enter and be mobile in groundwater is minimal. Tests have shown that rotenone will not transport through sediments. Although there are no domestic wells located within the project area, all water rights holders downstream in Pipe Creek were notified of this project, even though none of these users is currently using downstream water for domestic use. FWP will also follow the manufacturer's label recommendations that advise using sentinel fish (cutthroat trout in this case) to ensure the product has adequately degraded.

Risks to applicators are substantially greater than risks to the general public because of the necessity of handling the compounds at full strength. Measures to reduce risks to

applicators include training, proper handling, and the use of safety equipment listed on the product labels such as respirator, goggles, rubber boots, Tyvek overalls, and nitrile gloves. All applicators would be trained on the safe handling and application of the piscicide. At least one, and most likely several, Montana Department of Agriculture certified pesticide applicator(s) would supervise and administer the project. Rotenone and potassium permanganate would be transported, handled, applied, and stored according to the label specifications to reduce the probability of human exposure or spill. Health risk to project personnel will be minimized through the use of proper planning, preparation, and the use of personal protective gear.

The risk of exposure of these chemicals to the public will also be minor. Signs notifying the public of the project will be posted in the area at all access routes and the forest access road to and around the lake and the campground located at the lake. FWP will further limit human exposure of the chemicals used for this project to the public by closing the site to public use, collecting dead fish from the site, containing the treatment within the designated zone by detoxifying the piscicides, and posting signs within the project area that indicate no drinking, no swimming, and no eating dead fish.

Fish will not be stocked into Loon Lake until the toxic effects are gone, as specified on the product labels. FWP will use caged fish (cutthroat trout) to determine toxicity. Stocked fish will not accumulate residues of rotenone from the water.

### **Public Involvement:**

In compliance with the Montana Environmental Policy Act, an environmental assessment was prepared and circulated for public comment from July 31 through August 31, 2007. Notices were advertised in three local newspapers (Daily Inter Lake, Tobacco Valley, and Western News), a news release was done, and notification was mailed to local conservation groups, timber companies, selected businesses, and natural resource agencies. We also notified adjacent landowners of the project and all those holding water rights on Pipe Creek downstream of the outlet tributary. Copies of the EA were made available at three local libraries, the state library in Helena, the FWP Region 1 headquarters in Kalispell, and the FWP internet web site. FWP also conducted a public meeting in Libby on August 16, 2007, at which time FWP representatives described the project, answered questions, and gathered comments related to the project. In addition to advertising the environmental assessment, FWP also advertised the temporary closure of the Forest Service road and campground around Loon Lake in the Western Newspaper and on the local radio station. FWP received the following public comments.

### **Citizen Comments:**

#### **Comment:**

The planned poison and plant project on Loon Lake appears to have a significant piece of missing information - the lake's temperature, especially considering the impacts we have seen from low snow levels and high water temperatures this summer.

My problem is that you neglected to give any data whatsoever regarding the temperatures of this tiny, shallow lake. Given the massive die-off of trout in numerous other lakes around the state because of high water temperatures, it seems more than prudent to develop a temperature profile and gradient for a shallow, input-limited water body such as Loon Lake before proceeding any further with the plans.

My hunch, given that there is only a trickle of an inlet and, according to the EA, underwater springs that feed the lake, Loon Lake may only have bullheads and brook trout because they may be the only fish capable of withstanding the higher temperatures we are experiencing due to global warming. That assumption would make sense because, as fisheries biologists, you know that brook trout and bullheads can survive considerably higher temps than rainbow or cutthroat trout.

### **Response:**

FWP made an oversight by not including some background information regarding the temperature of Loon Lake in the draft environmental assessment. FWP has collected temperature information on several occasions from Loon Lake. The earliest temperature data I could find for the lake was collected in late July 1987, and at that time the surface temperature was 68 degrees F and decreased to 60 F at 24 feet. Surface temperature has been taken several times through the 1990s during summer gillnetting and never exceeded 67 degrees F at the surface. The surface water temperature in early August 2007 was 64 degrees F on the surface and 44 degrees F in the stream about 1 mile below the lake. We believe that the present temperatures in Loon Lake and the outlet stream are suitable for westslope cutthroat trout whose optimum temperature is around 57 degrees F. Lethal temperature for most species of trout including cutthroat trout exceeds 70 F. Ground water is the only appreciable input of water into Loon Lake in the summer, and it acts to mediate water temperature at depth. Cutthroat trout in Loon Lake would likely be managed as a put, take, and grow fishery.

### **Revisions to the Public Draft of the Environmental Assessment:**

FWP made two changes to the draft environmental assessment (dated July 31, 2007) after public review was completed. The first change was in the first paragraph on page 4. The public draft document originally contained the following text: "The objectives of this project are to increase the angling quality of Loon Lake and to reduce the number of brook trout entering Pipe Creek from Loon Lake and the outlet stream in order to aid the long-term persistence of bull trout in Pipe Creek for a period of at least 7-12 years by reducing the number of brook trout in Loon Lake and the outlet stream and black bullheads in Loon Lake by at least 90%."

This paragraph was changed to the following text in the final environmental assessment: "The objectives of this project are to increase the angling quality of Loon Lake and to reduce the number of brook trout entering Pipe Creek from Loon Lake and the outlet stream in order to aid the long-term persistence of bull trout in Pipe Creek by reducing the number of brook trout and black bullhead in Loon Lake and the outlet

stream. FWP acknowledges that complete removal of both species from these habitats may be difficult with a single application of piscicide.”

The second change FWP made to the draft environmental assessment was in the last paragraph on page 6. The public draft document originally contained the following text: “A single application of rotenone may not kill all the fish within the project area due to the high resilience to rotenone of black bullheads and the abundant spring activity within the unnamed tributary and lake that would likely provide refugia for the brook trout and black bullheads. Therefore, this project will require rotenone applications to achieve a reduction of at least 90 percent of both species. After the first rotenone treatment to Loon Lake and the outlet stream, we would evaluate the effectiveness of the treatment via gillnetting and electrofishing surveys and use the information gathered from these surveys to evaluate the need for an additional treatment. If fish are captured and a second treatment is required, we would likely complete the second treatment in either the late spring or early fall of 2008.

The original paragraph was changed to the following text in the final environmental assessment: “A single application of rotenone may not kill all the fish within the project area due to the high resilience to rotenone of black bullheads and the abundant spring activity within the unnamed tributary and lake that would likely provide refugia for the brook trout and black bullheads. Therefore, this project may require multiple rotenone applications to achieve project objectives. After the first rotenone treatment to Loon Lake and the outlet stream, we would evaluate its effectiveness via gillnetting and electrofishing surveys and use the information from these surveys to evaluate the need for an additional treatment. If fish are captured and a second treatment is required, we would likely complete the second treatment in either the late spring or early fall of 2008.”

### **Decision Notice:**

Based on the comments we received during the public comment period for the draft environmental assessment for the Loon Lake Rehabilitation Project, we have prepared the final environmental assessment for this project. Due to the urgent need to improve the quality of angling and restore cutthroat trout to part of their historic range, I recommend that we implement plans to remove the nonnative fishes from Loon Lake and restock the lake with cutthroat trout as soon as possible.

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James R. Satterfield, Jr., Ph.D., Supervisor  
MT Fish, Wildlife & Parks, Region One

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